

What is claimed is:

1. A vacuum cleaner, comprising:

a casing having a certain internal space;

5 a suction force generating unit installed in the casing so as to generate a suction force;

a head unit connected with the casing so as to have cleaning implement and provide a flow channel for removing impurities outside;

10 a filter unit installed in the casing for filtering off impurities in air sucked from the outside;

a flow channel switch means installed in the casing for selectively switching a flow channel of air flowing through among the head unit, the filter unit and the suction force generating unit; and

15 plural pipes for providing passages of air flowing through among the head unit, the filter unit, the suction force generating unit and the flow channel switch means.

2. The vacuum cleaner of claim 1, wherein the plural pipes includes:

20 a head unit connecting pipe formed on a side of the flow channel switch means so as to be connected with the head unit;

a main inflow pipe installed between the flow channel switch means and the filter unit;

a guide pipe for connecting the filter unit with the suction force generating unit;

25 a main discharge pipe connected to a side of the suction force generating

unit for making air flowing from the filter unit into the suction force generating unit discharge to the outside; and

a sub-discharge pipe for connecting the flow channel switch means with the main discharge pipe.

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3. The vacuum cleaner of claim 2, wherein the flow channel switch means includes:

a valve housing fixedly installed to the casing so as to have plural through holes connected to the head unit connecting pipe, the main inflow pipe and the sub-discharge pipe; and

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a flow channel switch valve rotatively inserted into the valve housing so as to have plural channels connected to the plural through holes.

4. The vacuum cleaner of claim 3, wherein the plural through holes of the valve housing includes a first through hole connected to the head unit connecting pipe, a second through hole connected to the main inflow pipe and a third through hole connected to the sub-discharge pipe, and

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the plural flow channels of the flow channel switch valve includes a first flow channel for connecting the first through hole of the valve housing with the second or the third through hole of the valve housing and a second flow channel for connecting the second through hole of the valve housing with ambient air when the first flow channel connects the first through hole with the third through hole of the valve housing.

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5. The vacuum cleaner of claim 4, wherein the plural through holes of

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the valve housing are formed at an interval of 90 degrees from each other.

6. The vacuum cleaner of claim 4, wherein the first through hole of the valve housing is formed at an interval of 90 degrees from the second through hole thereof and the third through hole of the valve housing is formed at an interval of 180 degrees from the second through hole thereof.

7. The vacuum cleaner of claim 4, wherein the second flow channel of the flow channel switch valve is formed so as to be vertical to the first flow channel.

8. The vacuum cleaner of claim 7, wherein at least one of through holes formed on both ends of the second flow channel is directly communicated to ambient air.

9. The vacuum cleaner of claim 2, wherein the sub-discharge pipe is diverged from a middle portion of the main discharge pipe and is integrally formed with the main discharge pipe.

10. The vacuum cleaner of claim 3, wherein a part of the flow channel switch valve is exposed to the outside of the casing.

11. The vacuum cleaner of claim 10, wherein a knob is formed on the top surface of part of the flow channel switch valve exposed to the outside for facilitating handling of the flow channel switch valve.

12. The vacuum cleaner of claim 10, wherein the knob is projected-formed so as to have a certain length and width.

5 13. A vacuum cleaner, comprising:
a casing having a certain internal space;
a suction force generating unit installed in the casing to generate a suction force and discharge sucked air;

10 a head unit combined with the casing to suck impurities on the bottom with air by a suction force of the suction force generating unit or discharge ambient air sucked from the outside;

a filter unit for filtering off impurities in air sucked through the head unit or ambient air received from the outside;

15 a flow channel switch means connected with the head unit, the filter unit and the suction force generating unit so as to selectively switch a flow channel for guiding air including impurities sucked in through the head unit by the suction force of the suction force generating unit or making ambient air introduced in the flow channel switch means flow to the head unit; and

20 plural pipes for providing passages of air flowing through among the head unit, the filter unit, the suction force generating unit and the flow channel switch means.

14. The vacuum cleaner of claim 13, wherein the plural pipes includes:

25 a head unit connecting pipe formed on a side of the flow channel switch means so as to be connected with the head unit;

a main inflow pipe installed between the flow channel switch means and the filter unit;

a guide pipe for connecting the filter unit with the suction force generating unit;

5 a main discharge pipe connected to a side of the suction force generating unit for making air sucked from the filter unit into the suction force generating unit discharge to the outside; and

a sub-discharge pipe for connecting the flow channel switch means with the main discharge pipe.

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15. The vacuum cleaner of claim 14, wherein the flow channel switch means includes:

a valve housing fixedly installed to the casing so as to have plural through holes connected to the head unit connecting pipe, the main inflow pipe and the sub-discharge pipe; and

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a flow channel switch valve rotatively inserted into the valve housing so as to have plural channels connected to the plural through holes.

16. The vacuum cleaner of claim 15, wherein the plural through holes of the valve housing includes a first through hole connected to the head unit connecting pipe, a second through hole connected to the main inflow pipe and a third through hole connected to the sub-discharge pipe, and

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the plural flow channels of the flow channel switch valve includes a first flow channel for connecting the first through hole of the valve housing with the second or the third through hole of the valve housing and a second flow channel

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for connecting the second through hole of the valve housing with the ambient air when the first flow channel connects the first through hole with the third through hole of the valve housing.

5 17. The vacuum cleaner of claim 16, wherein the plural through holes of the valve housing are formed at an interval of 90 degrees from each other.

 18. The vacuum cleaner of claim 16, wherein the second flow channel of the flow channel switch valve is formed so as to be vertical to the first flow
10 channel.

 19. The vacuum cleaner of claim 16, wherein at least one of the through holes formed on both ends of the second flow channel is contacted to ambient air.

15 20. The vacuum cleaner of claim 14, wherein the sub-discharge pipe is diverged from a middle portion of the main discharge pipe and is integrally formed with the main discharge pipe.

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